SPORTSTAR

Outdoor Master Pro

Instruction Manual

1.0 Introduction

Thank you for purchasing this Watch. Your Watch features electronic sensors which measures and shows the outdoor conditions: weather forecast, temperature, pressure, altitude and compass directions.

Your Watch also provides the essential information at the time during you are skiing, and these data can be further logged into a logbook for later review.

Your Watch also includes current time, daily alarm, chronograph, timer, pacer and dual time function.

To get the most of your purchase, it is advisable to use this watch in conformity with the below notes:

Be sure to carefully read this manual and keep it on hand for later reference when necessary.

Avoid exposing your Watch to extreme conditions for an unreasonable time.

Avoid rough usages or severe impacts to your Watch.

Do not open the Watch's case unless a certified service agency because your Watch contains precise electronic sensors and components.

Clean your Watch with a soft cloth occasionally that working for a longer use life of your watch.

Keep your Watch away from magnets or the appliances which contains magnetic objects such as mobile phones, speakers and motors.

Store your Watch in a dry place when it is not in use.

2.0 Button Layout

Mode Button [M]

- To select among Current Time, Daily Alarm, Chronograph, Timer, Pacer and Dual Time Mode.
- To select among Ski, Ski Logbook, Altimeter, Barometer and Compass Mode.
- To select among the setting items during setting display.

Sensor Button [ESC]

- To select between Sensor Mode and Timekeeping Mode.
- Hold down to turn on the EL back light for about 3 seconds. **Note:** When **'Night'** back light function is ON, pressing any key will turn ON the back light too.

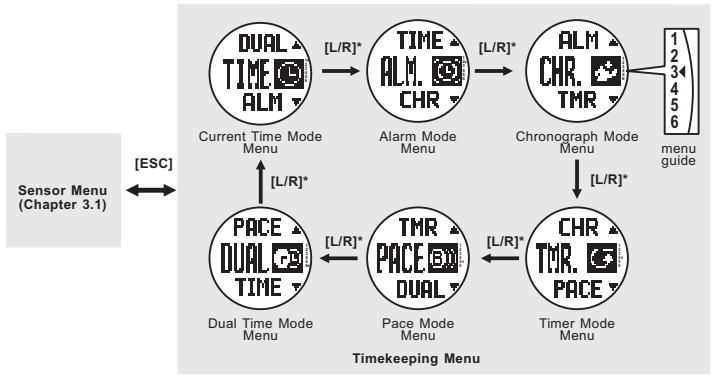
Start/Stop Button [S/S]

- To select different functional displays under the same mode.
- To activate the 'start' or 'stop' function during Chronograph and Timer Mode.
- To toggle Yes/No.
- To increase the digits during setting display.

Lap/Reset Button [L/R]

- To activate the 'lap' or 'reset' function during Chronograph and Timer Mode.
- To move the cursor to left by one during History recalling display.

3.0 Major Function Mode - Timekeeping Menu



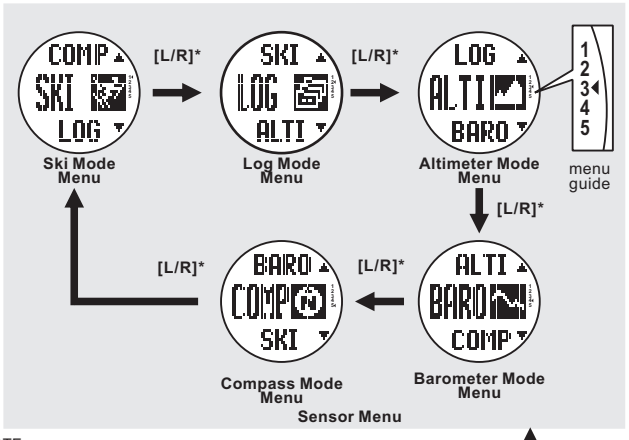
NOTE:

When one of the menus is selected, the corresponding function mode will appear after a few seconds or press [M] to show the function mode immediately.

The menu guide shows the current menu no.(e.g 3) with the total no. of available menus (e.g 6).

*Press [S/S] to move the selection in the reverse direction.

3.1 Major Function Mode - Sensor Menu



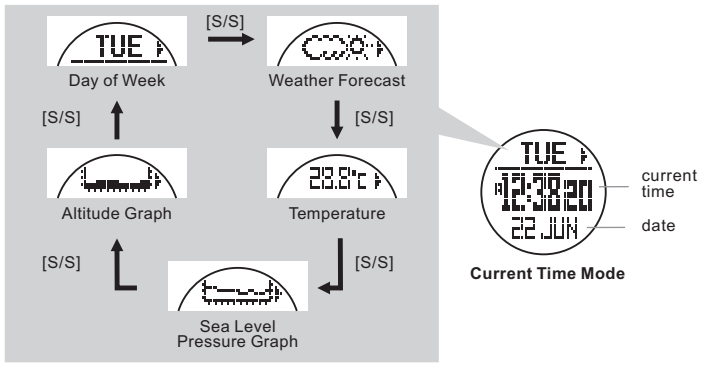
NOTE:

When one of the menus is selected, the corresponding function mode will appear after a few seconds or press [M] to show the function mode instantly.

The menu guide shows the current menu no.(e.g 3) with the total no. of available menus (e.g 5).

*Press [S/S] to move the selection in the reverse direction.

4.0 Current Time Mode - Function Overview

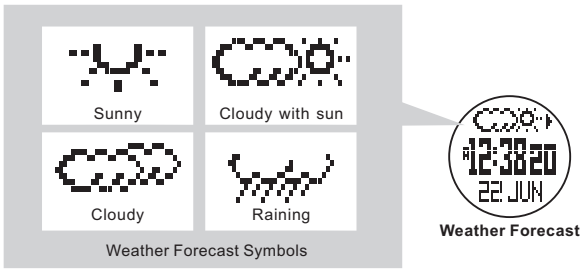


NOTE:

When the Watch is NOT in use, storing the watch in Power Saving Mode (LCD is OFF) could save battery.

To activate Power Saving Mode by holding [L/R] for 5 seconds in Current Time Mode. Press any button will resume normal operation from Power Saving Mode.

4.1 Current Time Mode - Weather Forecast



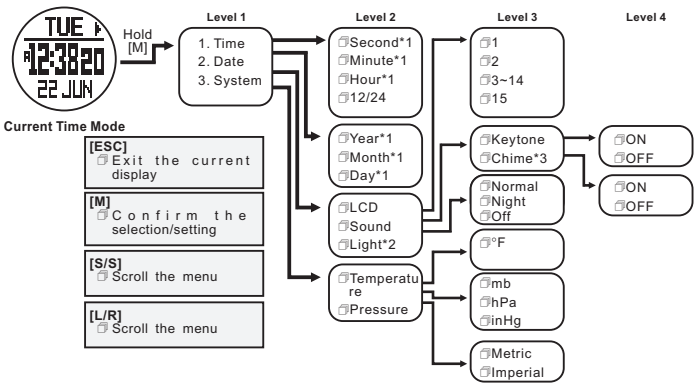
IMPORTANT:

The Watch predicts the coming weather by using the readings of the changes of air pressure, in order to avoid the changes of pressure is caused by the changes of altitude, it is highly recommended to stay at the same altitude for at least 24 hours for a higher accurate predication.

WARNING:

The Watch can predict the weather by adopting general weather prediction principles, it is NOT capable to reflect the extreme changing of weather within a very short period of time. Always double check the predicted weather from this Watch with other credible sources for critical events.

4.2 Current Time Mode - Setting the Watch



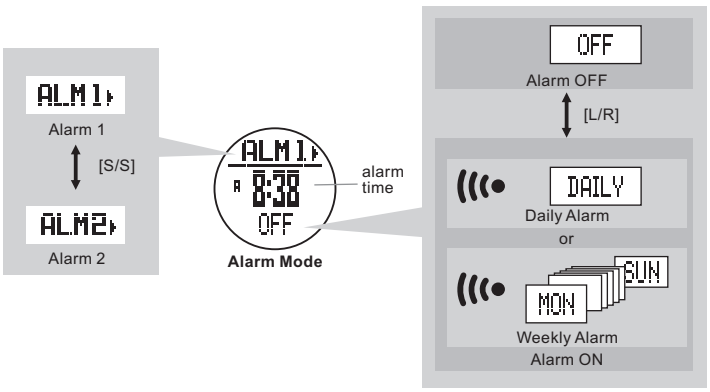
NOTE:

*1. Press [M] to select among the settings.

*2. Press [EL] will turn ON the backlight if ***'Normal'*** is selected. Press any button will turn ON the backlight if ***'Night'*** is selected. Backlight will not turned ON if ***'OFF'*** is selected.

*3. The Watch will beep once at the hour i.e 1:00, and 2:00, etc. if 'Chime' is ON (the ' ' is appeared).

5.0 Alarm Mode - Setting the Alarm ON and OFF



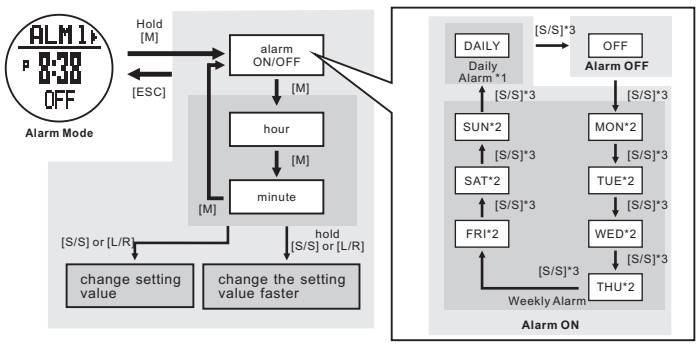
NOTE:

If Daily or Weekly Alarm is ON (the ' ' is appeared), the Watch will beep at the predefined alarm time daily or weekly.

The Watch will sound for 30 seconds at the alarm time. While alarm sounds, press any key to stop the sound instantly.

Alarm 1 and Alarm 2 can be set to alarm Daily or Weekly, See 5.1 for the details of the setting.

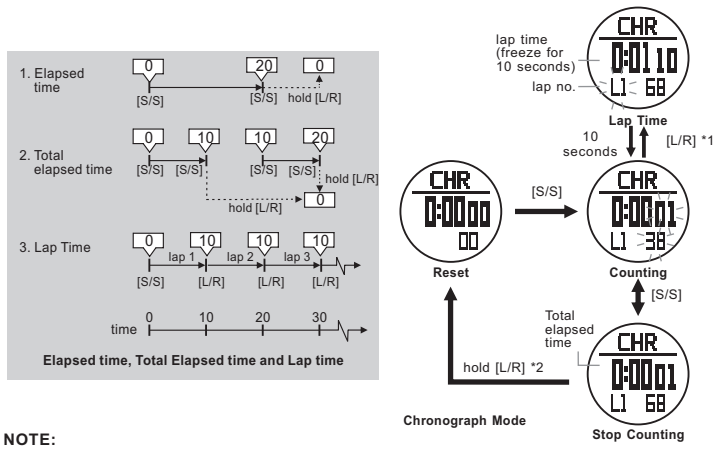
5.1 Alarm Mode - Setting the Alarm



NOTE:

1. If the 'DAILY' is selected, the alarm is turned ON and the Watch will alarm at the predefined time everyday.
2. If a Weekday (i.e 'MON', 'TUE' and etc) is selected, the alarm is turned ON and the Watch will alarm at the predefined time at that weekday of every week.
3. Press [L/R] to move the selection in the reverse order.

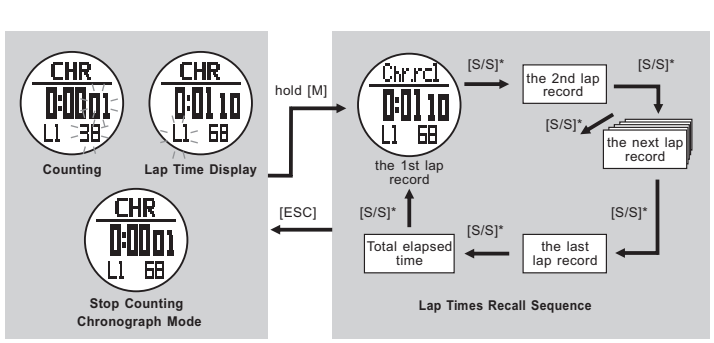
6.0 Chronograph Mode - Using the Chronograph



NOTE:

1. The Watch can record up to 50 lap times i.e L1 to L50.
2. Hold down [L/R] for 2 seconds (when the chronograph is stopped) to reset the chronograph. If the Chronograph is reset, the recorded Lap Time(s) will be erased too.

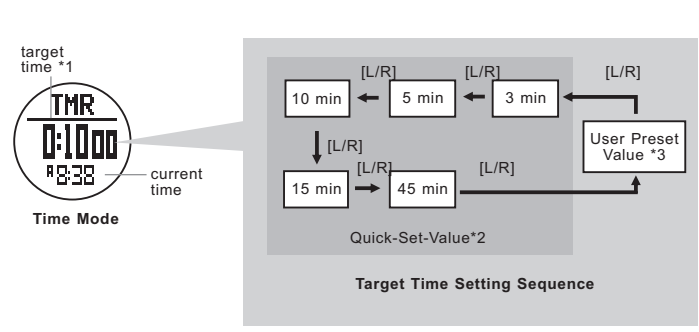
6.1 Chronograph Mode - Recalling Lap Time



NOTE:

1. Press [L/R] to move the selection in the reverse order.
2. See 6.0 to erase the recorded Lap Time(s) (reset the chronograph).

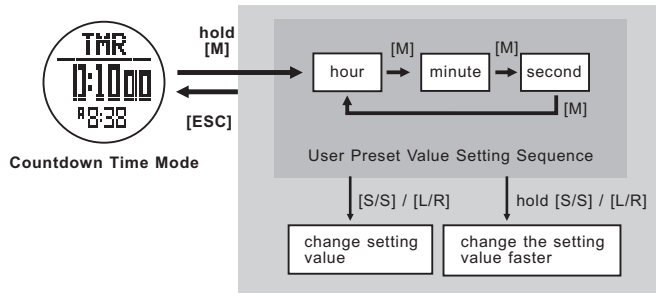
7.0 Timer Mode - Setting the Target Time



NOTE:

1. The Timer starts counting from the Target Time to zero.
2. The Watch includes 5 Quick-Set-Values : 3, 5, 10, 15 and 45 minutes for setting the Target Time faster, and these values CANNOT be set by user.
3. The User Preset Value of the Target Time CAN be set by user.

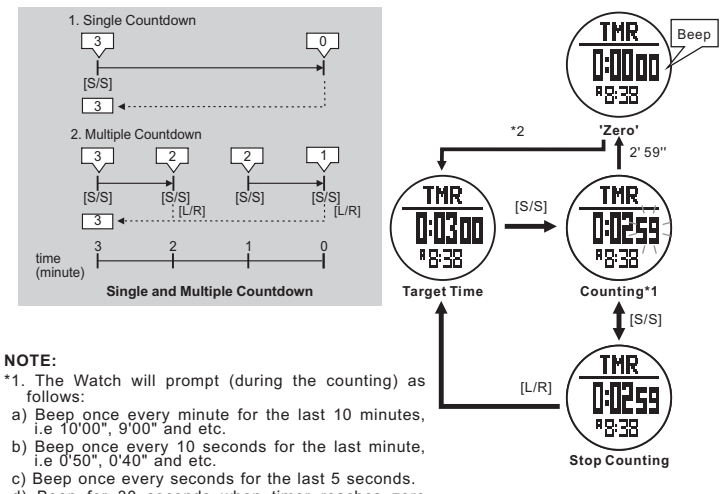
7.1 Timer Mode - Setting the User Preset Target Time



NOTE:

■The setting range is up to 99 hours 59 minutes 99 seconds.

7.2 Timer Mode - Using the Countdown Timer



NOTE:

*1. The Watch will prompt (during the counting) as follows:

a) Beep once every minute for the last 10 minutes, i.e 10'00", 9'00" and etc.

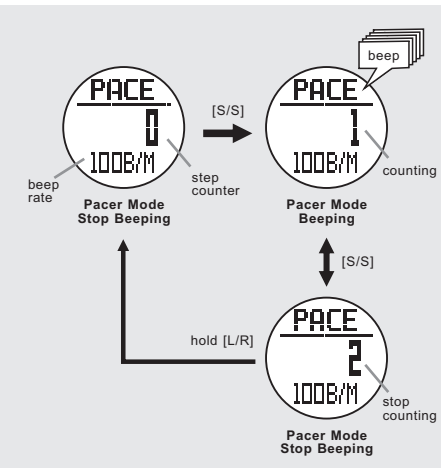
b) Beep once every 10 seconds for the last minute, i.e 0'50", 0'40" and etc.

c) Beep once every seconds for the last 5 seconds.

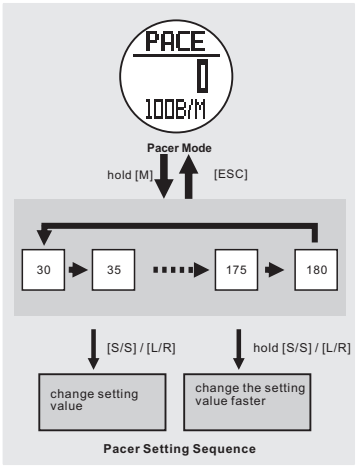
d) Beep for 30 seconds when timer reaches zero (Press any button to stop the beep sound).

*2. The Target Time will be reloaded automatically.

8.0 Pacer Mode: Using the Pacer

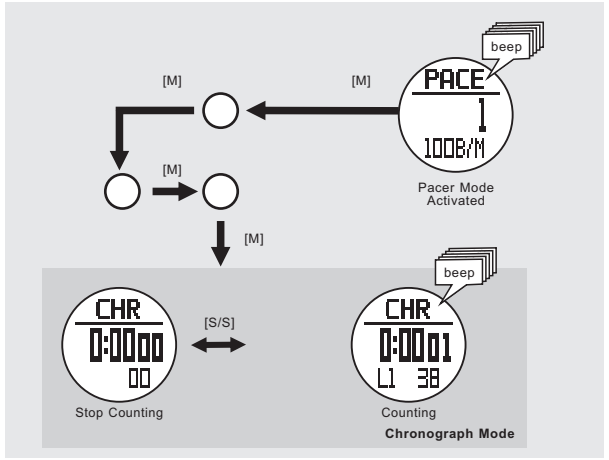


8.1 Pacer Mode: Setting the Pacer



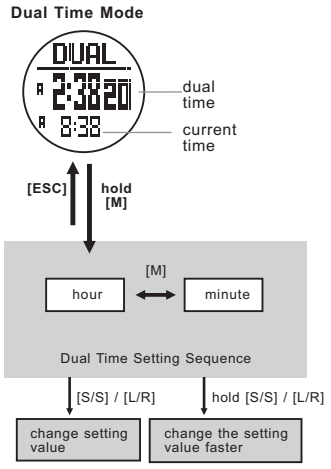
Note: The Pacer rate is setting in a step of 5 beeps per minute i.e 30,35,40,45,50, etc.

8.2 Pacer Mode: Using Pacer with Chronograph



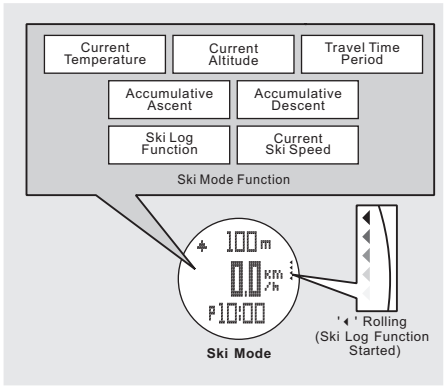
Note: (1)In Chronograph Mode, press [S/S] to start/stop the counting with pacer (beeping) when the Pacer has already been activated.

9.0 Dual Time Mode



NOTE: The second digits of Dual Time is synchronized with the second digits of Current Time.

10.0 Ski Mode - Ski Function Overview



Ski Mode

- The Ski Mode includes the following functions:
- Show the current ski data on display, and
- Log the ski data into Ski Logbook.

Ski Log Function

- To log the data for a skiing, user must start the Ski Log function in advance.

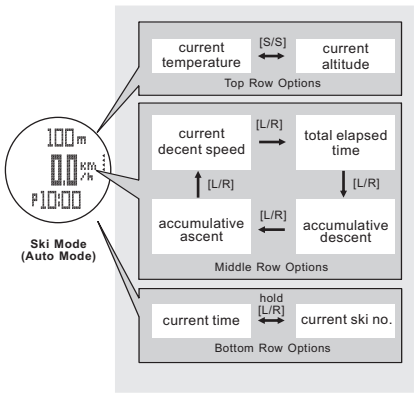
Note: The Ski Log function can be started or stopped from the Ski Mode Function Menu. See 10.4.1 for the details.

- When the user starts a skiing. the Watch can start the logging automatically (Auto Mode) or Manually (Manual Mode).

How to select between Auto and Manual Mode

- Hold down [S/S] in Ski Mode to select between Auto Mode and Manual Mode.

10.1 Ski Mode - Ski Mode Display - Auto Mode



Auto Mode

- Under Auto Mode, the Watch can start the logging automatically when a significant altitude change is detected, i.e a skiing is started.

The data of that skiing run will be shown on the display and logged into logbook. See 10.3 for the detail of the Ski Log Function.

The Top Row Display

- Press [S/S] to change the top row display between Current Altitude and Current Temperature.

IMPORTANT: If the user intends to get an accurate reading of air temperature, the user must taken off the watch from the wrist for 20 to 30 minutes before the actual measurement. It prevent body temperature effect the Watch.

The Middle Row Display

- Press [L/R] to change the middle row display among skiing's Current Descent Speed, Total Elapsed Time, Accumulative Descent and Accumulative Ascent.

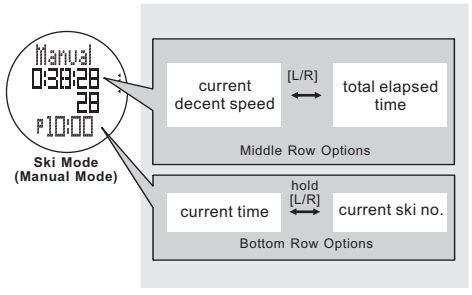
NOTE: This changing can be functioned only if the Ski Log Function is started.

The Bottom Row Display

- Hold down [L/R] to change the bottom row display between Current Time and the skiing number.

NOTE: This changing can be functioned only if the Ski Log Function is started.

10.2 Ski Mode - Ski Mode Display - Manual Mode



Manual Mode

- Under Manual Mode, press [S/S] to start or stop the logging when a ski run is started or ended.

The data of that skiing will be shown on the display and logged into logbook. See 10.3 for the detail of the Ski Log Function.

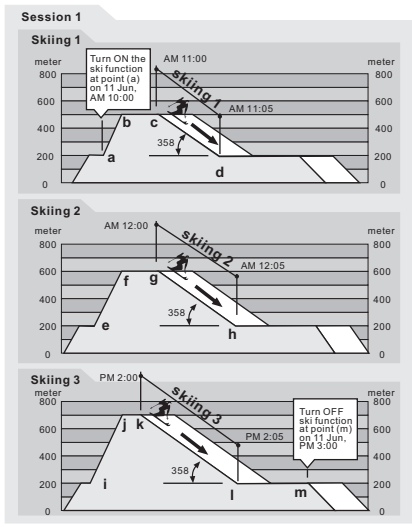
The Middle Row Display

Press [L/R] to change the middle row display between skiing's Current Descent Speed and Total Elapsed Time.

The Bottom Row Display

- Hold down [L/R] to change the bottom row display between Current Time and the skiing number.

10.3 Ski Mode - Ski Log Function, an Example



An Example to Illustrate Ski Log Function

- Assume a user enjoyed three skiing within a day as it is outlined by the adjacent diagram. To use the Ski Log function, the user needs to start the Ski Log Function before the skiing.

The Watch will log the below ski data into Logbook automatically, and these ski data can be reviewed from Logbook Mode. See 11.0 to 11.1.2 for the details.

Ski Session (statistic of all skiing within that session)

- The started date of the session= 11 June.
- The started time of the session = AM10:00 00.
- The total travel time = 5: 00 00.
- The total number of skiing recorded = 3 skiing.
- The total descent time = 0:15 00.
- The accumulative descent = 1200m.
- The accumulative ascent = 1200m.
- The maximum descent speed = 15 Km/h*.
- The maximum altitude reached = 700 m.
- The minimum altitude reached = 200 m.

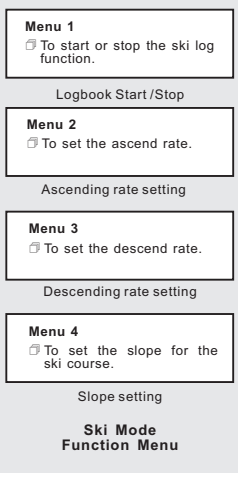
The slope of the ski course = 358

Skiing (ski data)

- The started time of the run= AM 11:00 00 (run 1), AM 12:00 00 (lap 2), PM 2:00 00 (run 3).
- The total descent time = 0:05 00 (run 1), 0:05 00 (run 2), 0:05 00 (run 3).
- The maximum descent speed = 9 Km/h* (run 1), 11 Km/h* (run 2), 15 Km/h* (run 3).
- The average descent speed = 6 Km/h (run 1), 8 Km/h (run 2), 10 Km/h (run 3).
- The maximum altitude reached = 500 m (Lap 1), 600 m (run 2), 700 m (run 3).
- The minimum altitude reached = 200 m (Lap 1), 200 m (run 2), 200 m (run 3).
- The altitude change = 300 m (run 1), 400 m (run 2), 500 m (run 3).
- The descent altitude change graph for every run.

NOTE:*These maximum speeds are dummy figures, the maximum speed can be logged in a real case only.

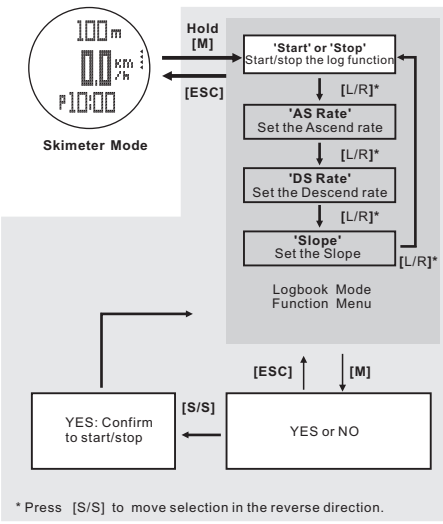
10.4 Ski Mode - Function Menu Overview



Function Menu Overview

- The function menu includes four menus:
- **Menu 1 -** Logbook Start /Stop: To start or stop the ski log function.
- **Menu 2 -** Ascend rate setting : To set the trigger sensitivity for start or stop the logging under auto mode.
- **Menu 3 -** Descend rate setting: To set the trigger sensitivity for start or stop the logging under auto mode.
- **Menu 4 -** Slope setting: To set the slope for the ski course.
- Check the coming chapters for more detail on how to use these menus.

10.4.1 Ski Mode - Function Menu 1, Start or Stop the Logbook

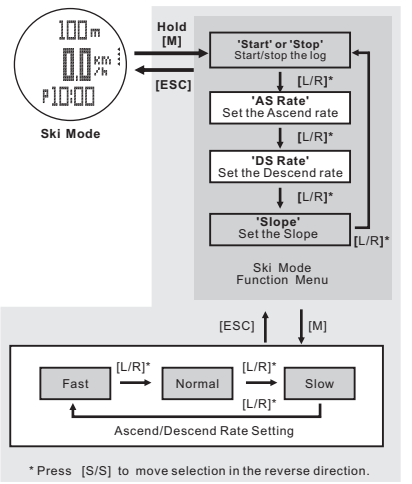


* Press [S/S] to move selection in the reverse direction.

How to Start/stop the Log Function

- In Ski Mode, hold down [M] for about 2 seconds to exhibit the function menu.
- Press [S/S] or [L/R] to move the reversed color (selected) until **'Start'** or **'Stop'** is selected.
- Press [M] will enter the menu.
- Press [S/S] to confirm the start or stop of the log function.
- Press [ESC] to abort.
- When the operations is completed, press the [ESC] button to exit the function menu.

10.4.2 Ski Mode - Function Menu 1, AS/DS Rate Setting



* Press [S/S] to move selection in the reverse direction.

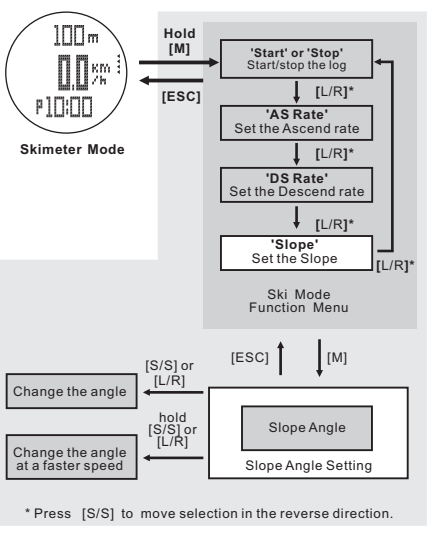
Ascend/Descend Rate

- The Ascend/Descend Rate (the trigger sensitivity for start or stop the logging under Auto Mode) can be adjusted.
- There are three levels of sensitivity:
- Fast Sensitivity: If sometimes false auto-activation is observed, select this setting to improve the performance.
- Normal Sensitivity: If the auto-activation is functioned normally, keep this setting.
- Slow Sensitivity: If the auto-activation can not be functioned, select this setting to improve the performance.

How to Set the Ascend/Descend Rate

- In Ski Mode, hold down [M] for about 2 seconds to exhibit the function menu.
- Press [S/S] or [L/R] to move the reversed color (selected) until **'AS Rate'** or **'DS Rate'** is selected.
- Press the [M] button will enter the menu.
- Press [S/S] or [L/R] to to change the setting among ***'FAST'*** (Fast), ***'SLOW'*** (Slow) and ***'NORMAL'*** (Normal).
- When the operations is completed, press the [ESC] button to exit the function menu.

10.4.3 Ski Mode - Function Menu 1, DS Rate Setting



* Press [S/S] to move selection in the reverse direction.

Slope Setting

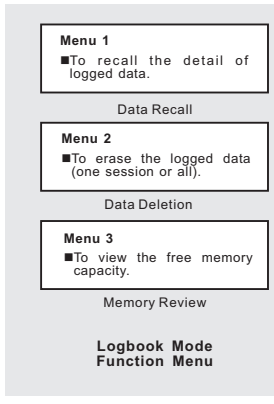
- The slope setting is the setting that inputs the slope angle of the ski field into the Watch for calcuation.

Most of the ski fields post that figure to skier on the ski field.

How to Set the Slope

- In Ski Mode, hold down [M] for about 2 seconds to exhibit the function menu.
- Press [S/S] or [L/R] to move the reversed color (selected) until **'Slope'** is selected.
- Press [M] will enter the menu.
- Press [S/S] or [L/R] to set the slope angle.
- When the operations is completed, press the [ESC] button to exit the function menu.

11.0 Logbook Mode - Function Menu Overview

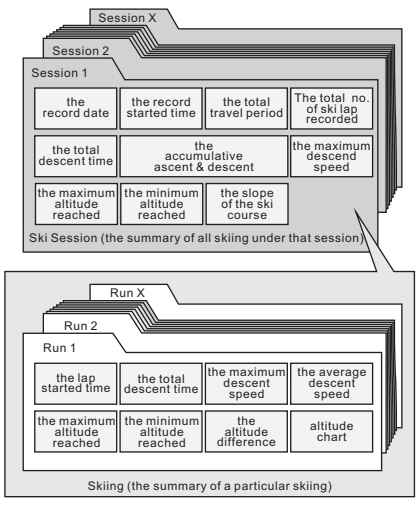


Function Menu Overview

The function menu includes three menus:

- **Menu 1 - Session Review:** To review the logged session and the summary of all skiing of that session.
- **Menu 2 - Data Erasure:** To erase one or all logged session(s).
- **Menu 3 - Free Memory Review:** To review the free memory capacity.
- Check the coming chapters for more detail on how to use these menus.

11.1 Logbook Mode: Function Menu 1


Session X
Session 2
Session 1
the record date
the record started time
the total travel period
The total no. of ski lap recorded
the total descent time
the accumulative ascent & descent
the maximum descend speed
the maximum altitude reached
the minimum altitude reached
the slope of the ski course
Ski Session (the summary of all skiing under that session)
Run X
Run 2
Run 1
the lap started time
the total descent time
the maximum descent speed
the average descent speed
the maximum altitude reached
the minimum altitude reached
the altitude difference
altitude chart
Skiing (the summary of a particular skiing)

Ski Session

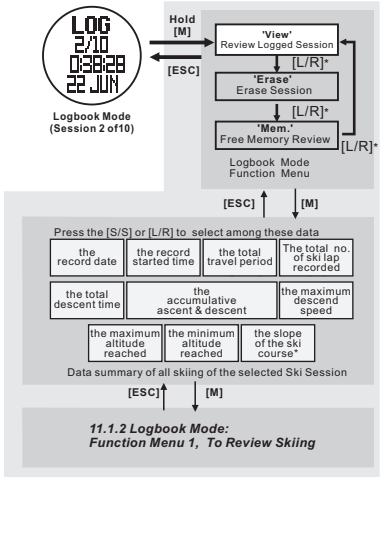
- The Logbook logs all skiing (taken under one start-stop of the log function) into a session, and it provides the summary of these skiing:
- The started date of the Session,
- The started time of the Session,
- The total travel period,
- The total number of skiing recorded,
- The total descent time,
- The accumulative ascent & descent,
- The maximum descent speed,
- The maximum altitude reached,
- The minimum altitude reached and

The slope of the ski course.

Skiing

- The skiing logs the data of a particular skiing, and it includes:
- The started time of the run
- The total descent time
- The maximum descent speed,
- The average descent speed,
- The maximum altitude reached,
- The minimum altitude reached,
- The altitude difference, and
- The altitude chart

11.1.1 Logbook Mode: Function Menu 1, To review Session



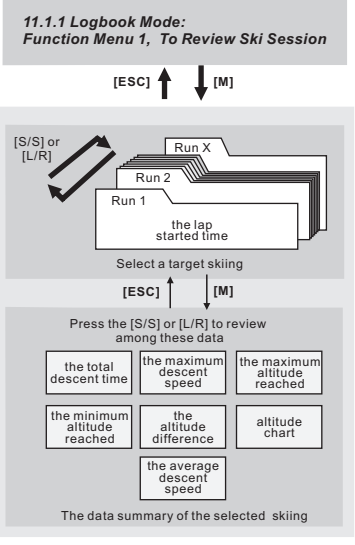
How to Review the Ski Session

- In Logbook Mode, press [S/S] or [L/R] button to select a target session (e.g the Session 2 of 10) for reviewing.
- Hold down [M] in that display for about 2 seconds to exhibit the function menu:
- Press [S/S] or [L/R] to move the reversed color until the ***'View'*** is selected. Press the [M] button will enter that menu.
- Press [S/S] or [L/R] to review the summary of that ski session according to the adjacent diagram.
- Press the [ESC] to go back to previous display, or
- Press [M] to review skiing data. See 11.1.2 for the details.
- When the review is completed, press [ESC] for several times to exit the function menu.

***Note:** The slope of a session can be changed during the review by the following steps:

- 1) Hold down [M] in 'Slope' Display.
- 2) Press [S/S] or [L/R] to change the slope.
- 3) Press [ESC] to exit.
- The maximum and average descent speed will be updated according to the new slope.

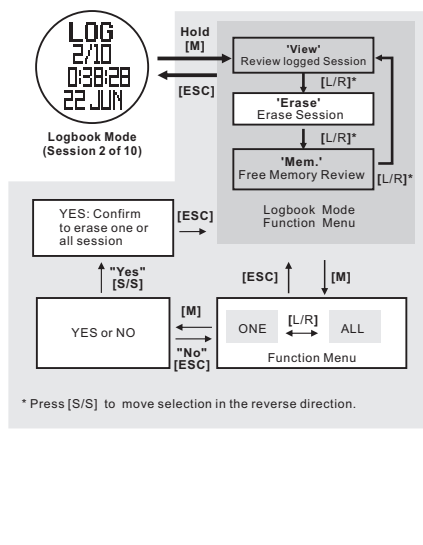
11.1.2 Logbook Mode: Function Menu 1, To review a Skiing



How to Review the skiing

- Press [M] in a session (11.1.1) to enter the skiing selection:
- Press the [S/S] or [L/R] to select a target skiing. Press the [M] button will enter that menu.
- Press [S/S] or [L/R] to review the summary of that skiing according to the adjacent diagram.
- When the review is completed, press [ESC] button for several times to exit the function menu.

11.2 Logbook Mode: Function Menu 2, Delete Session

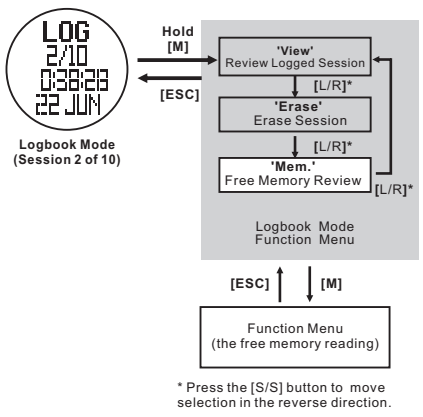


* Press [S/S] to move selection in the reverse direction.

How to Delete One or All Session

- In Logbook Mode, press [S/S] or [L/R] to select a target session to erase. Hold down the [M] button for about 2 seconds in that display to exhibit the function menu.
- Press the [S/S] or [L/R] button to move the reversed color (selected) until **'Erase'** is selected.
- Press the [M] button will enter that menu.
- Press the [S/S] or [L/R] to select the **'ALL'** (all session will be erased) or **'ONE'** (the selected session will be erased).
- If **'ALL' or 'ONE'** is selected, press the [M] to display the Confirm Menu.
- If Confirm Menu **- 'Yes' or 'NO'** is displayed, press the [S/S] to confirm.
- When the operations is completed, press the [ESC] button to exit the function menu.

11.3 Logbook Mode: *Function Menu 3, Recall free memory*

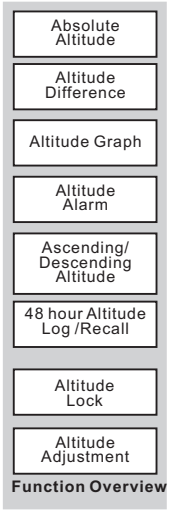


* Press the [S/S] button to move selection in the reverse direction.

How to Recall the Free Memory

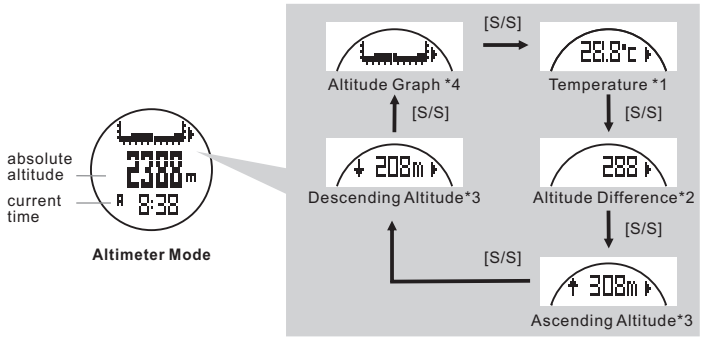
- In Logbook Mode, hold down the [M] button for about 2 seconds to exhibit the function menu.
- Press [S/S] or [L/R] to move the reversed color (selected) among the functions according to the adjacent diagram.
- When **'Mem.'** is selected, press the [M] button will enter that menu.
  - The free log memory will exhibit on the display.
- When the operations is completed, press the [ESC] button to exit that menu. Press the [ESC] button once again to exit the function menu.

12.0 Altimeter Mode - *Function Overview*



- **Absolute Altitude:** The altitude difference between the current altitude and Sea Level (0 m).
- **Altitude Difference:** The altitude difference between the current altitude and the altitude where the altitude difference is set to zero.
- **Altitude Graph:** This altitude graph is plotted from the 48 Hour Altitude Log, the x-axis is the time variable (1 hour) while the y-axis is altitude variable.
- **Altitude Alarm:** An alert will prompt when the user passes through the defined altitude (from below or above the altitude). There are two altitude alarms - Altiutude Alarm 1 and 2.
- **Ascending/Descending Altitude:** The Watch will count the ascending or descending altitude automatically when this function is activated.
- **48 Hour Altitude Log and readings Recall:** The Watch logs the altitude every hour automatically (i.e 1:00, 2:00, etc.) for 48 hours, and these logged altitude readings can be recalled by user.
- **Altitude Lock:** A function to lock the altitude. The altitude will not be changed when Altitude Lock is activated
- **Altitude Adjustment:** A function to calibrate the Watch to achieve a more accurate altitude reading.

12.1 Altimeter Mode - *Function Display*



IMPORTANT:

*1. In order to get an accurate air temperature, remove the Watch from the wrist for a while (to eliminate body heat effect) before the measurement.

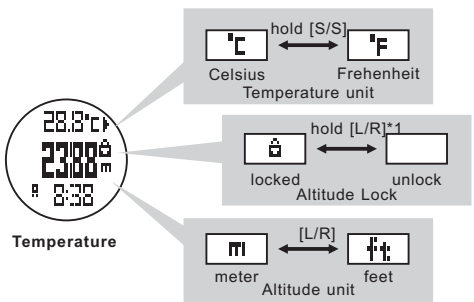
NOTE:

*2. To get the Altitude Difference of two points, reset the Altitude Difference (Default:100 m) to 0 at the 1st. point.

*3. To get Ascending and Descending altitude, start the AS/DS counter prior to the ascent or descent.

*4. To read the Altitude Graph on a daily or continuous basis, choose 'Daily' or 'History' Chart option. See Chapter 12.3 for detail of the setting.

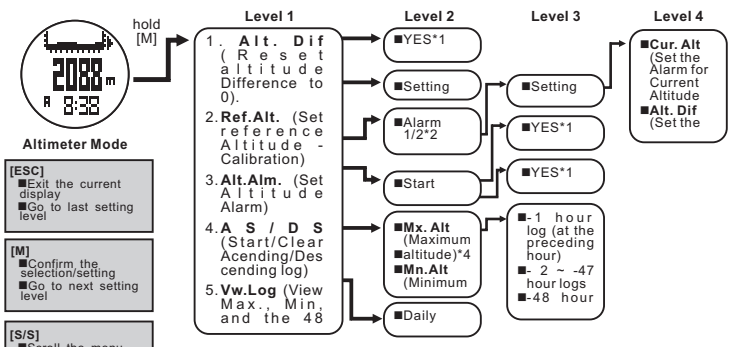
12.2 Altimeter Mode - *Setting the Units and Altitude Lock*



NOTE:

*1 The altitude will NOT be changed when Altitude Lock is activated. For example, activate Altitude Lock when staying in a campsite, it keeps the Watch's altitude unchange even a changing of weather overnight.

12.3 Altimeter Mode: *Altimeter Function Menu*



NOTE: Read Chapter 12.3.1 - 12.3.6 before using this Menu.

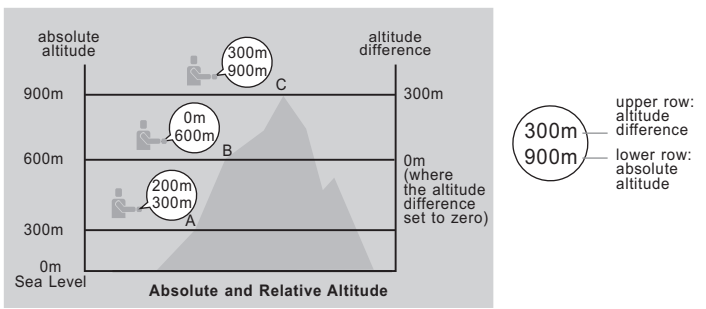
*1. Press [S/S] to process the selection -Yes or press [ESC] to escape out of the selection - NO.

*2. Press [S/S] to select between Alarm 1 and Alarm 2.

*3 Press [L/R] to select between 'ON' and 'OFF' the alarm. Hold down (M) to select setting display.

*4 Press [M] to review the logged altitude.

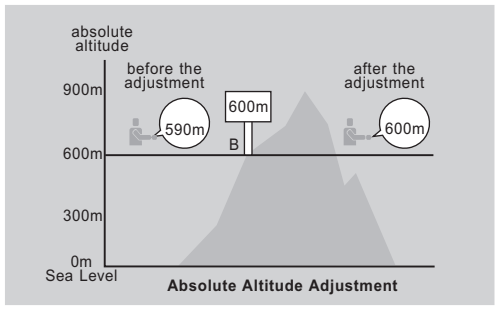
12.3.1 Altimeter Mode: *Menu 1, Resetting Altitude Difference*



NOTE:

- To get the Altitude Difference of two points (e.g point B and C), reset the Altitude Difference to 0 at the starting point (e.g point B). The watch will show the altitude difference of point B and C at point C (300m).
- See 12.3\Alt.Dif.\ to reset the Altitude Difference.

12.3.2 Altimeter Mode: *Menu 2, Calibrating Reference Altitude*



Why the Altitude Need to be Adjusted

This Watch calculates absolute altitude from air pressure, like most altimeters the change of air pressure would affect the altitude reading. As air pressure may change gradually even within hours, achieve a more accurate reading, the Watch need to be adjusted from time to time

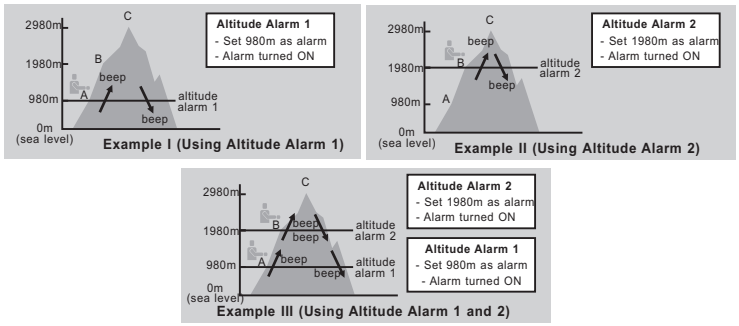
Adjusting the Altitude

- Adjusting the altimeter at a place where the altitude is well-defined, like the place with an altitude sign pole (e.g marked 600 m).

See 12.3\Ref.Alt.\ to input the reference altitude into the Watch.

IMPORTANT: Input an incorrect altitude, may result an incorrect reading.

12.3.3 Altimeter Mode: *Menu 3, Setting Altitude Alarm*



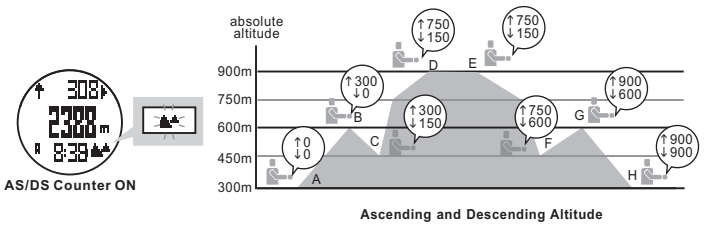
IMPORTANT:

The altitude alarm will be sounded in Altimeter Mode only.

NOTE:

- Altitude Alarm 1 and 2 are independent alarm. These alarms CAN be set for absolute altitude or altitude difference.
- The alarm will sound if passing through (either from below or from above) the predefined altitude.
- See 12.3\Alt. Alm\ to set the alarm.

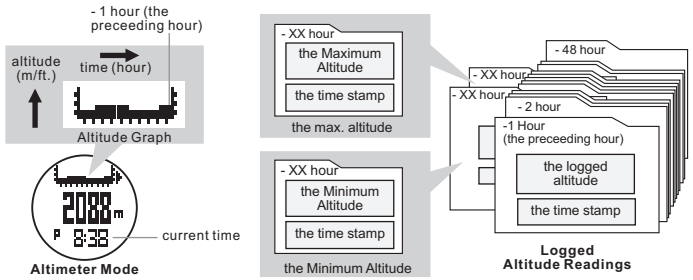
12.3.4 Altimeter Mode: *Menu 4, Using AS/DS Counter*



NOTE:

- To get Ascending/Descending Altitude, start the AS/DS function first.
- When the AS/DS Counter is ON, the ' ' indicator will be flashing on the display.
- When this function has been activated for over 24 hours in any function Mode (except Altimeter Mode), the AS/DS counting will be turned OFF automatically.
- Refer to 12.3\AS/DS\ to start/stop or clear the AS/DS counter.

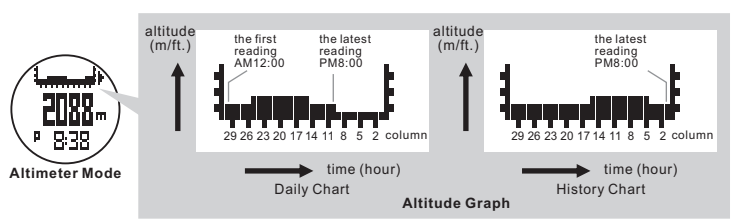
12.3.5 Altimeter Mode - *Menu 5, Reviewing Altitude Log*



48 Hour Altitude Log

- The Watch logs the altitude every hour at the hour for the last 48 hours automatically. For example, the current time is PM 8:38, the altitude readings were logged at PM 8:00 (-1 hour), PM 7:00 (-2 hour), PM 6:00 (-3 hour) and etc.
- These readings are further plotted into an altitude-time graph i.e. the Altitude Graph.
- The maximum and the minimum altitude with the respective time stamp will be sorted out from the log. These readings and other logged altitude readings of the last 48 hours can be reviewed by this menu.
- See 12.3\Vw. Log\ to review the logged altitude readings.

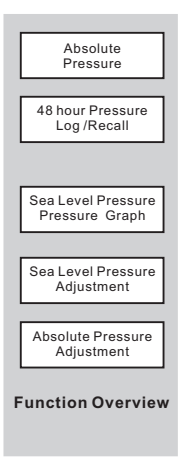
12.3.6 Altimeter Mode - *Menu 6, Setting Chart for Altitude Graph*



Altitude Graph

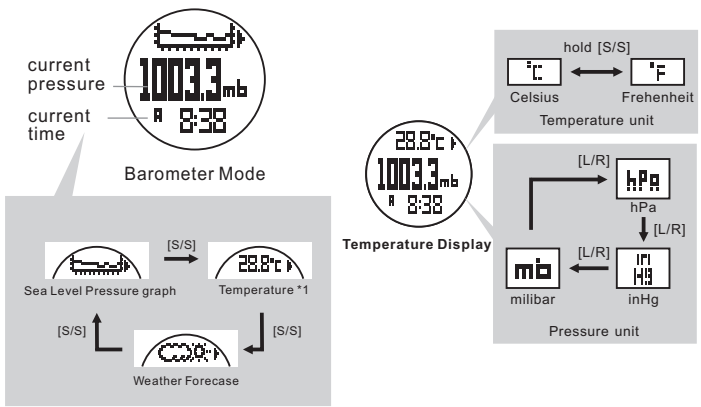
- The Graph shows the logged altitude readings (Chapter 12.3.5) by the following two ways:
- Daily Chart - Shows the logged altitude readings for the current day only. The 1st. log of the day (AM12:00) will be shown on the 30th column, the 2nd. log (AM1:00) will be shown on the 29th column, and the other readings are shown similarly, or
- History (Continuous) Chart - Shows the logged altitude readings continuously by First-In-First-Out data structure. The latest log will be shown on the 1st. column, the second latest log will be shown on the 2nd. column, and the other readings are shown similarly.
- See 12.3\Chart\ to choose Daily or History Chart.

13.0 Barometer Mode - *Function Overview*



- **Absolute Pressure:** The pressure readings which detects currently on the current altitude.
- **48 Hour Sea Level Pressure Log and readings Recall:** The Watch logs the pressure readings automatically every hour at the hour, (i.e 1:00, 2:00, etc.) for 48 hours, and these logged pressure readings can be recalled by the user.
- **Sea Level Pressure Pressure Graph:** This pressure graph is plotted from the pressure readings which logged by the 48 Hour Sea Level Pressure Log.
- **Sea Level Pressure Adjustment:** A function to adjust the Watch to achieve a more accurate sea level pressure
- **Absolute Pressure Adjustment:** A function to adjust the Watch to achieve a more accurate absolute pressure reading.

13.1 & 13.2 Barometer Mode - *Function Display & Setting*

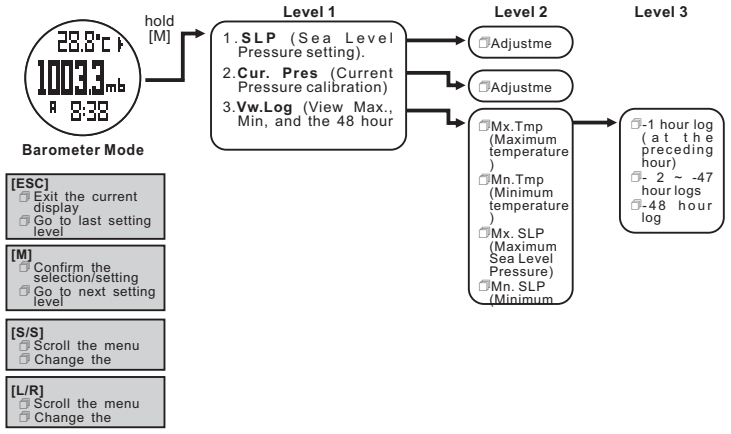


IMPORTANT:

*1. In order to get an accurate air temperature, remove the Watch from the wrist for a while (to eliminate body heat effect) before the measurement.

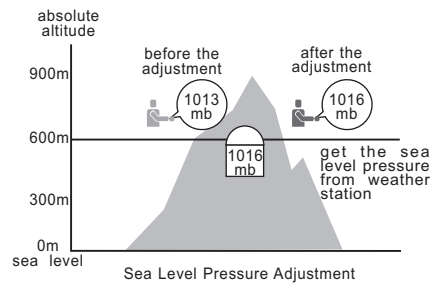
The pressure and temperature display unit can be changed in Barometer Mode or in Current Time Mode. See 4.2\unit\ for the details of the setting.

13.3 Barometer Mode: *Barometer Function Menu*



NOTE: See 13.3.1 - 13.3.3 for more detail of these functions.

13.3.1 Barometer Mode - *Menu 1, Adjusting Sea Level Pressure*

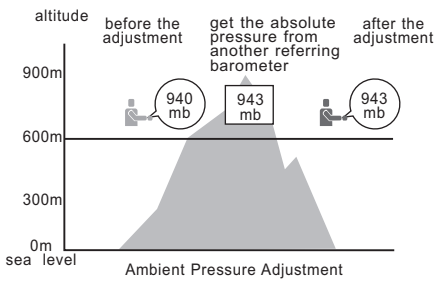


Why Sea Level Pressure need to be Adjusted

- This Watch includes a Sea Level Pressure adjustment feature, which CAN:
- To achieve a more accurate Sea Level Pressure,
- To achieve a more accurate Altitude (In case the exact altitude is NOT available for calibrating the reference altitude).
- Before calibrate the sea level pressure, consult the nearest observatory to get the most update sea level pressure.
- During the adjustment, input that Sea Level Pressure into the Watch.
- See 13.3\SLP\ to adjust the Sea Level Pressure.

IMPORTANT: Input an incorrect pressure during the adjustment procedure, it results a mistaken pressure reading in future.

13.3.2 Barometer Mode - *Menu 2, Adjusting Absolute Pressure*

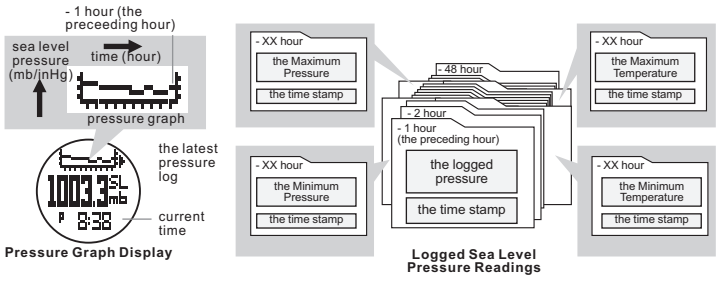


Why Absolute Pressure need to be Adjusted

- For achieve higher accuracy, this Watch includes an adjustment feature which allow user to adjust the absolute pressure.
- Before adjusting the absolute pressure, obtain another referring barometer to get the absolute pressure of your current position.
- During the adjustment, input that absolute pressure into the Watch.
- See 13.3\Cur. Pres\ to adjust the Absolute Pressure.

IMPORTANT: Input an incorrect pressure my results an incorrect pressure reading in future.

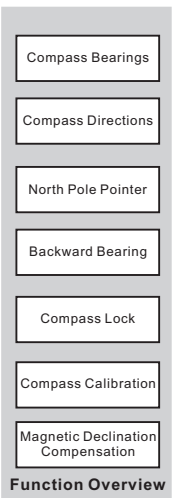
13.3.3 Barometer Mode- *Menu 3, Reviewing Pressure Logs*



48 Hour Sea Level Pressure Log

- The Watch logs the Sea Level Pressure every hour at the hour for the last 48 hours automatically. For example, the current time is PM 8:38, then the Sea Level Pressure readings were logged at PM 8:00 (-1 hour), PM 7:00 (-2 hour), PM 6:00 (-3 hour) and etc.
- These readings are further plotted into a pressure-time graph i.e the Sea Level Pressure Graph.
- The Maximum/Minimum Sea Level Pressure readings and the Maximum/Minimum Temperature readings with respect to the time stamp will be sorted out from the log. These readings and other logged Sea Level Pressure readings of the last 48 hours can be reviewed by this menu.
- See 13.3\Vw. Log\ to review the logged Sea Level Pressure readings.

14.0 Compass Mode - *Function Overview*



- **Compass Bearings:** A way to indicate the direction of an object by using the angular difference between North (08) and the object (08 to 3598).
- **Compass directions:** A way to indicate the direction of an object by divided direction into 4, 8 or 16 directions (N,E,S,W, NE, SE, SW, NW and etc.)
- **North pole pointer:** A pointer which always indicate the direction of magnetic north.
- **Backward Bearing:** The backward bearing indicates the opposite direction from normal bearing.
- **Compass Lock:** A function to lock the compass bearing, compass direction and the magnetic north pole pointer.
- **Compass Calibration:** A process to allow the watch to self regulate the compass to achieve a more accurate compass reading.
- **Magnetic Declination Compensation:** A setting to compensate the local magnetic declinaton to achieve a more accurate compass reading.

14.1 Compass Mode - *Precautions*

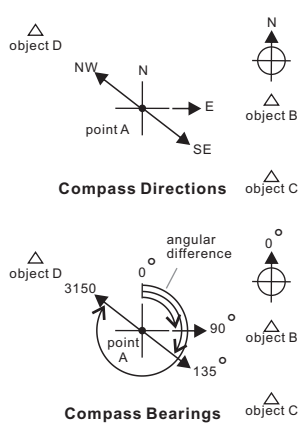
- Keep the Watch away from Magnetic sources, like:
- Speakers,
- Motors,
- Mobile phones and etc.

- Avoid measuring direction when:
- Close to a magnetic object
- Close to metallic object
- Close to an electrical appliance
- Inside a moving object.

- Perform compass calibration or magnetic declination compensation process when:
- The Watch is using for the first time,
- The battery has been replaced,
- The bearing direction digits are flashing, and the compass bearing and compass direction are flashing
- The compass use in a location that is apart from the place in which the compass had been calibrated,
- The user intends to regulate the precision of the digital compass.

Tips and Precautions

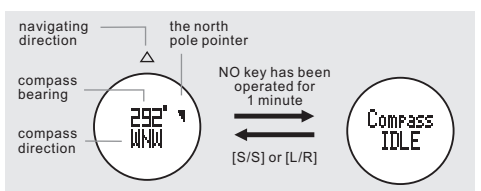
14.2 Compass Mode - *Compass Directions and Bearings*



Marks	Compass Directions	Compass Bearing
N	North	349° - 118°
NNE	North Northeast	12° - 33°
NE	Northeast	34° - 56°
ENE	East Northeast	57° - 78°
E	East	79° - 101°
ESE	East Southeast	102° - 123°
SE	Southeast	124° - 146°
SSE	South Southeast	147° - 168°
S	South	169° - 191°
SSW	South Southwest	192° - 213°
SW	Southwest	214° - 236°
WSW	West Southwest	237° - 258°
W	West	259° - 281°
WNW	West Northwest	282° - 303°
NW	Northwest	304° - 326°
NNW	North Northwest	327° - 348°

NOTE:
This Watch includes both compass directions and compass bearings.

14.3 Compass Mode - *Compass Display*

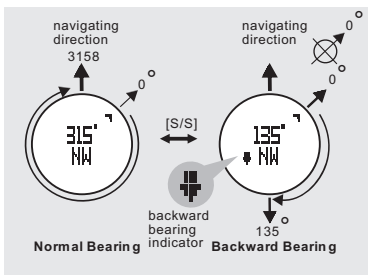


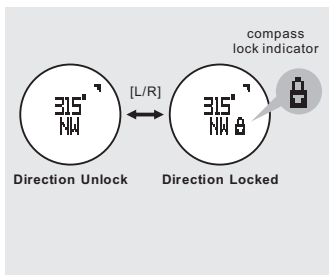
NOTE:

If NO key has been operated for about 1 minute, the Watch will go to IDLE Mode automatically. Press [S/S] or [L/R] to resume the compass to normal operation .

If distortion is detected, the compass bearing and compass direction are flashing. See 14.6\Calibrate\ to restore the compass to normal operation when distortion occur.

14.4 Compass Mode - *Backward Bearing and Compass Lock*

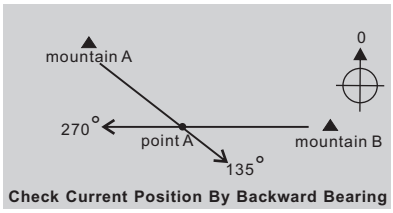


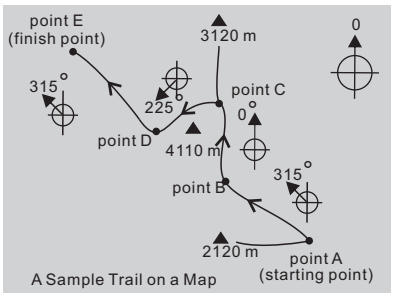


NOTE:

- When the 'Backward Bearing indicator ' ' is appeared, the Watch is showing the backward bearing direction of the navigating direction.
- When the 'Lock' indicator ' ' is appeared, the compass direction, bearing direction and the magnetic north pole pointer are locked.
- The Compass Lock will be released automatically when the Watch enter IDLE Mode.

14.5 Compass Mode - *Applications of the Compass*





How to Check your Position by Backward Bearing

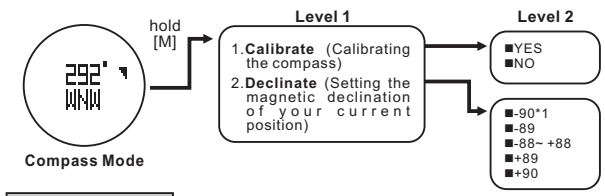
- Spot two distant identifiable landmarks such as mountain, light-house or fort from your current position, like the mountain A and B.
- Check out the backward bearing directions of mountain A and B from your current position, i.e 135° from mountain A and 270° from mountain B.
- Use a ruler to draw the line 135° on the map which starting from the mountain A. Draw the lines 270° on the map which starting from the mountain B.
- Your current position on the map will be the interchapter point (point A) of the lines 135° and 270°

How to Check the Trek Course Correct

- Mark the points (identifiable landmarks) where the trail turns its direction or the trail branches its way, such as the point A, B, C, D and E on the adjacent diagram.
- Find out the bearing directions of point B from point A (315°), point C from point B (08), point D from point C (225°), and then point E from point D (315°).
- During the trekking, make sure that the heading direction is 315° from point A to point B. Performing the similar checking for other sections of the trail.

IMPORTANT: If you are in doubt of the directions and positions of the trail, consult the park administration office before starting the trekking.

14.6 Compass Mode - *Compass Function Menu*



[ESC]
- Exit the current display
- Go to last setting level

[M]
- Confirm the selection/setting
- Go to next setting level

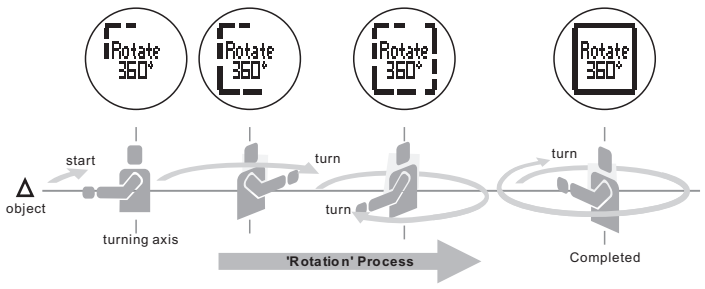
[S/S]
- Scroll the menu
- Change the setting

[L/R]
- Scroll the menu
- Change the setting

NOTE: See more detail of these functions from 14.6.1 - 14.6.2.2

*1.See 14.6.2.2 to select the magnetic declination value of the city which is close to your current position.

14.6.1 Compass Mode - *Menu 1, Calibrating the Compass*



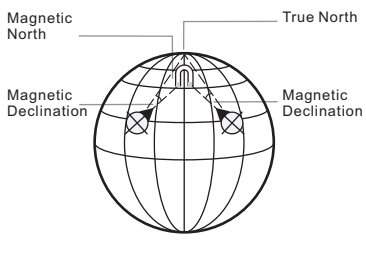
NOTE:

- During the 'rotation' process, ensure the following practices are carrying out:
- Turning steadily - Keep the time for the 'rotation' for about 20 to 30 seconds,

IMPORTANT: Keep the Watch parallel to the horizon

- Perform the 'rotation' process in a open space.
- Locate an object in front of you, then steadily turn your body clockwise along the vertical axis of your body.
- The Watch is calibrated if a square appear on the display.
- When the calibration is completed, press [ESC] to exit the calibration.
- See 14.6\calibrate\for starting the calibration.

14.6.2 Compass Mode - Menu 2, Setting Magnetic Declination



What is Magnetic Declination

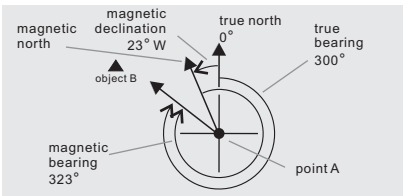
- The Magnetic North Pole which is slightly different from the True North Pole. This Watch, like most magnetic compass, points to the Magnetic North Pole, while everything measure from a map is related to the True North Pole.
- The angular difference between Magnetic North Pole and True North Pole is called magnetic declination. Its amount (degrees and minutes) and direction (easterly and westerly) depend on where you are in the world.

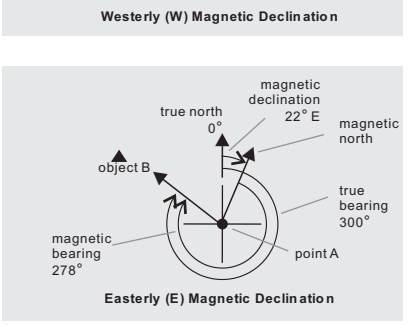
For serious compass user or whom intends to perform accurate navigation, this Watch must be adjusted for magnetic declination.

Magnetic Declination Information

- Most topographic maps include a small arrow which shown magnetic north pole and or the magnetic declination information.
- This manual includes the magnetic declination for some major cities. See the coming chapter 'Magnetic Declination at Major Cities' for more detail.
- For the cities are not included in the list, please refer to the online magnetic declination calculator at:
- http://geomag.nrcan.gc.ca/apps/mdcal_e.php
- http://www.ngdc.noaa.gov/seg/geomag/jsp/Declination.jsp

14.6.2.1 Compass Mode - Menu 2, Setting Magnetic Declination





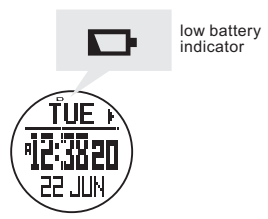
Magnetic Declination Compensation Examples

- To get an object's true bearing (TB) by subtract westerly (W) magnetic declination or add easterly (E) magnetic declination with the magnetic bearing (MB).
- Example 1: 23° Westerly magnetic declination and the compass needle points 323°.
- TB = MB - W. While MB = 323° ; W =23°
- TB = 323° - 23°
- TB = 300°
- The true bearing will be 300°.
- Example 2: 22° Easterly magnetic declination and the compass needle points 278°.
- TB = MB + E. While MB = 2788 ; E = 22°
- TB = 278° + 22°
- TB = 300°
- The true bearing will be 300°.
- The Watch can compensate the compass bearing at a place where the magnetic declination is either Westerly declination or Easterly declination.

14.6.2.2 Compass Mode - Menu 2, Setting Magnetic Declination

No.	Country/Place	Major City	Declination	No.	Country/Place	Major City	Declination
1	Afghanistan	Kabul	+2E	33	Netherlands	Amsterdam	-1W
2	Australia	Canberra	+12E	34	New Zealand	Wellington	-22E
3	Austria	Vienna	+2E	35	Norway	Oslo	0
4	Bahrain	Manama	+2E	36	Pakistan	Islamabad	+2E
5	Bangladesh	Dhaka	0	37	Philippines	Manila	-1W
6	Belgium	Brussels	-1W	38	Portugal	Lisbon	-5W
7	Brazil	Brasilia	-19W	39	Russia	Moscow	+9E
8	Canada	Ottawa	-14W	40	Singapore	Singapore	0
9	Chile	Santiago	+5E	41	South Africa	Cape Town	-23W
10	China	Beijing	-6W	42	Spain	Madrid	-3W
11	China	Hong Kong	-2W	43	Sweden	Stockholm	+3E
12	Costa Rica	San Jose	0	44	Switzerland	Bern	0
13	Cuba	Havana	-3W	45	Taiwan	Tai-pei	-3W
14	Czech Republic	Prague	+2E	46	Thailand	Bangkok	0
15	Denmark	Copenhagen	+1E	47	UAE	Abu Dhabi	+1E
16	Egypt	Cairo	+3E	48	United Kingdom	London	-3W
17	Finland	Helsinki	+6E	49	United States	Washington, DC	-10W
18	France	Paris	-1W	50		Juneau	+25E
19	Germany	Berlin	+1E	51		Phoenix	+12E
20	Greece	Athens	+3E	52		Little Rock	+2E
21	Hungary	Budapest	+4E	53		Sacramento	+16E
22	India	New Delhi	+1E	54		Denver	+10E
23	Indonesia	Jakarta	+1E	55		Atlanta	-4W
24	Israel	Jerusalem	+3E	56		Honolulu	+10E
25	Italy	Rome	+1E	57		Boston	-16W
26	Japan	Tokyo	-7W	58		Saint Paul	+2E
27	Jordan	Amman	+3E	59		Jackson	+1E
28	Kenya	Nairobi	+1E	60		Santa Fe	+10E
29	Korea	Seoul	-7W	61		Oklahoma City	+6E
30	Malaysia	Kuala Lumpur	+1E	62		Salem	+18E
31	Mexico	Mexico City	+6E	63		Harrisburg	-11W
32	Nepal	Kathmandu	0	64		Salt Lake City	+14E

15.0 Battery



Note:

- Replace the battery with a new CR2032.
- However, if the appearance of battery-low indicator is caused by using the Watch under very cold condition, the indicator will be disappeared when normal temperature resume.
- It is recommended to complete the battery replacement by a certified service agency, because this Watch contains precise electronic sensors and components.
- The memory will be cleared if the battery has been replaced.

16.0 Specifications - Timekeeping Mode

Current Time Mode
- Hour, minute, second, am, pm, month, date
- Day of week, weather forecast, temperature, sea level pressure history display or altitude history.
- Time System: 12-hour or 24-hour format
- Calendar System
- Auto-Calendar pre-programmed from the year 2000 to 2099

Weather Forecast: 4 symbols to indicate the predicated weather

Daily Alarm Mode
- 2 daily or weekly alarms
- Hourly chime
- Alarm Sound

Sounds for 30 seconds at preset time

Chronograph Mode
- Resolution: 1/100 second
- Measuring Range: 99 hours 59 minutes 59.99 seconds

Measuring Mode: 50 lap memories; Recall lap memories and total time.

Countdown Timer Mode
- Resolution: 1 second resolution
- User-defined target time setting: 99 hours 59 minutes 59 seconds
- Operation Mode: Countdown
- Quick Set : 5 quick set Values (3, 5, 10, 15 and 45 minutes)
- Timer Sounds:
- Last 10 minutes beep once every minute
- Last 1 minute beeps once every 10 seconds
- Last 5 seconds beeps once every second
- Sounds for 30 seconds when count to zero

Pacer Mode
- Range: 30 - 180 bpm (in step of 5)

Step counter: Maximum 999999 steps.

Dual Time Mode
- Hour, minute, second

Ski Mode
- Ski Lap trigger: Automatic or Manual
- Ski Slope setting: 5° to 90°
- Sensitivity type: Ascending and Descenting
- Sensitivity Level: Fast, Normal and Slow
- Altitude range: -706m to 9164m (-2316ft to 30067 ft)
- Travel Time: Maximum 99 minutes, 59.99 seconds.

skiing memory: 50 skiing

Altimeter Mode
- Resolution : 1m (1ft)
- Measuring range: -706m to 9164m (-2316ft to 30067ft)
- Sampling Interval: First 5 min: 1 sec; After 5 min: 1 minute
- History Recall: Maximum 48 hours history recall

Altitude Alarm: 2 altitude alarms

Barometer Mode
- Resolution/ Measuring Range: 300 hPa/mbar to 1100 hPa/mbar (8.85 inHg to 32.48 inHg)
- Sampling Interval : First 5 min: 1 second; After 5 min: 1 min
- History

Thermometer
- Resolution: 0.1 °C (0.1°F)

Measuring range: -10.0 °C to 60.0 8C (14.0 8F to 140.0 8F)

Compass Mode
- Resolution: 1° display (digital)
- Measuring range: 0 to 359° (digital)
- Others: Digital bearing reading Lock
- Digital backward bearing

Declination Setting: Range: +908 to -908

Backlight

Electro-Luminescent (EL) backlight

Battery
- Watch: 3V lithium battery (CR2032) 1 piece